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binary, multibit and volume data storage, comprising:

- (a) at least one dyestuff selected from polymeric azo dyestuffs and oligomeric azo dyestuffs, said dyestuff changing its spatial arrangement upon irradiation with polarized electromagnetic radiation; and
- (b) optionally at least one grouping having form anisotropy,

wherein

- (i) the absorption maximum of the dyestuff is at least one of, at least 30 nm less than 400 nm and at least 30 nm greater than 400 nm,
- (ii) at 400 nm the dyestuff reaches an optical density of not more than 60% of its absorption maximum,
- (iii) said optical recording material has the capacity for being rewritten on by changing the state of polarization of actinic light, an intensity of at least 80% of the original value being achieved after a deletion/rewriting cycle, and
- (iv) wherein at 400 nm, under identical conditions, an optical writing operation upon said optical recording material proceeds no more slowly than at 500 nm, and birefringence values induced during said optical writing operation do not differ from those birefringence values induced at 500 nm by more than 10%.

2. (Once Amended, Clean) The recording material of Claim 1 wherein the absorption maximum of the dyestuff is less than 370 nm.

3. (Once Amended, Clean) The recording material of Claim 1 wherein the absorption maximum of the dyestuff is greater than 450 nm.

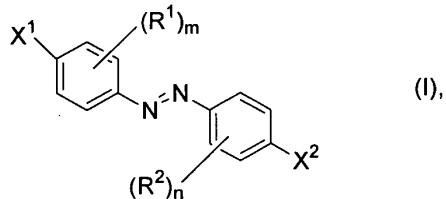
4. (Once Amended, Clean) The recording material of Claim 1 wherein it comprises a copolymer which comprises at least one component of which the

absorption maximum is greater than 450 nm, and at least one component of which the absorption maximum is less than 360 nm.

5. (Once Amended, Clean) The recording material of Claim 1 wherein in the solid state at a thickness of 250 nm said recording material has an optical density of ≤ 1 , at a wavelength in a wavelength range from 380 to 420 nm.

6. (Once Amended, Clean) The recording material of Claim 1 wherein said optical recording material is optically written upon using electromagnetic radiation that is light in a laser wavelength range of between 380 to 420 nm.

7. (Once Amended, Clean) The recording material of Claim 1 wherein the dyestuff corresponds to the formula (I):



wherein

R^1 and R^2 independently of one another represent hydrogen or a nonionic substituent,

m and n independently of one another represent an integer from 0 to 4,

X^1 and X^2 denote X^1-R^3 or X^2-R^4 ,

X^1 and X^2 represent a direct bond, -O-, -S-, -(N-R⁵)-, -C(R⁶R⁷)-, -(C=O)-, -(CO-O)-, -(CO-NR⁵)-, -(SO₂)-, -(SO₂-O)-, -(SO₂-NR⁵)-, -(C=NR⁸)- or -(CNR⁸-NR⁵)-,

R^3 , R^4 , R^5 and R^8 independently of one another represent hydrogen,

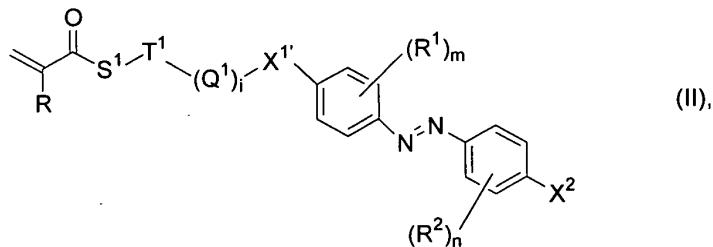
C_1 - to C_{20} -alkyl, C_3 - to C_{10} -cycloalkyl, C_2 - to C_{20} -alkenyl, C_6 - to C_{10} -aryl, C_1 - to C_{20} -alkyl-($C=O$)-, C_3 - to C_{10} -cycloalkyl-($C=O$)-, C_2 - to C_{20} -alkenyl-($C=O$)-, C_6 - to C_{10} -aryl-($C=O$)-, C_1 - to C_{20} -alkyl-(SO_2)-, C_3 - to C_{10} -cycloalkyl-(SO_2)-, C_2 - to C_{20} -alkenyl-(SO_2)- or C_6 - to C_{10} -aryl-(SO_2)-,

X^1 - R^3 and X^2 - R^4 can represent hydrogen, halogen, cyano, nitro, CF_3 or CCl_3 ,

R^6 and R^7 independently of one another represent hydrogen, halogen, C_1 - to C_{20} -alkyl, C_1 - to C_{20} -alkoxy, C_3 - to C_{10} -cycloalkyl, C_2 - to C_{20} -alkenyl or C_6 - to C_{10} -aryl,

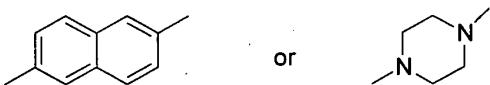
wherein the sensitivity of the dyestuff to actinic light after induced birefringence has been written in is retained at a final value, and this sensitivity is at least 5% of the original value when the longitudinal axis of the molecule lies perpendicular to the direction of polarization of the actinic light.

8. (Once Amended, Clean) The recording material of Claim 1 wherein said recording material is prepared from at least one monomer of the formula (II),



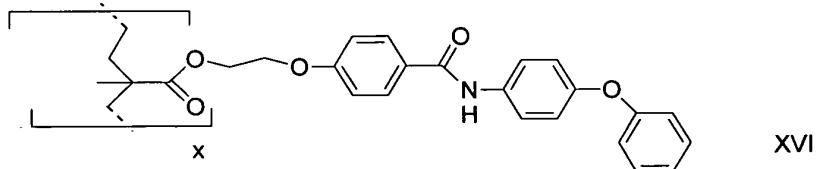
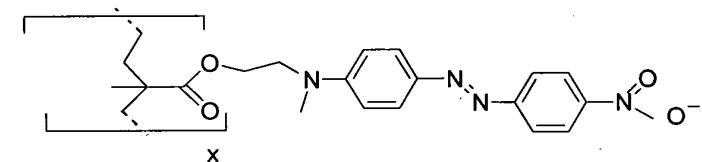
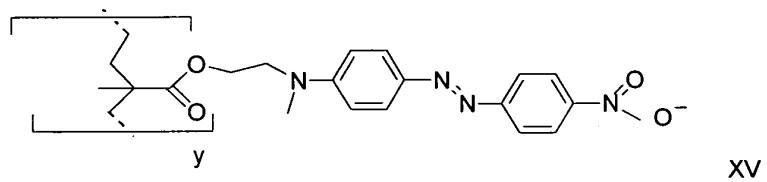
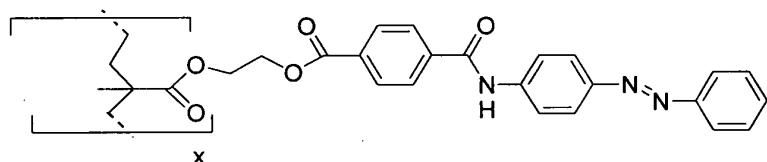
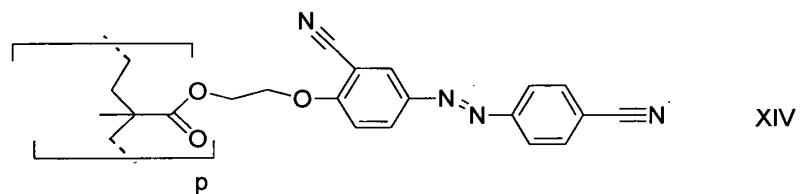
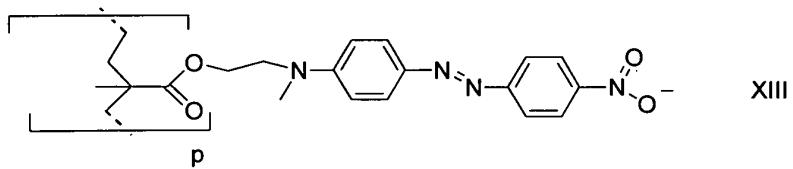
wherein

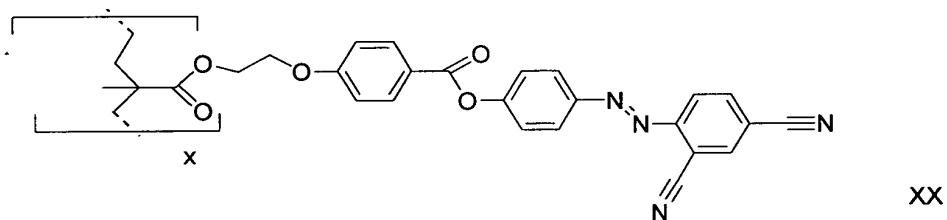
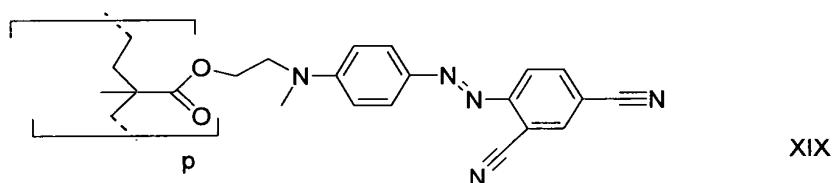
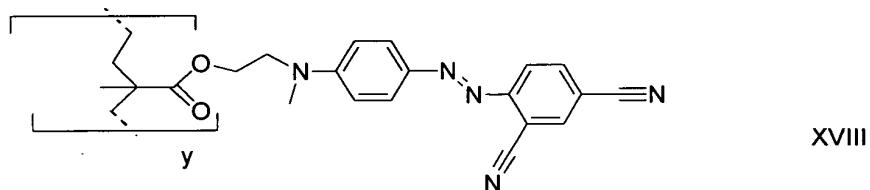
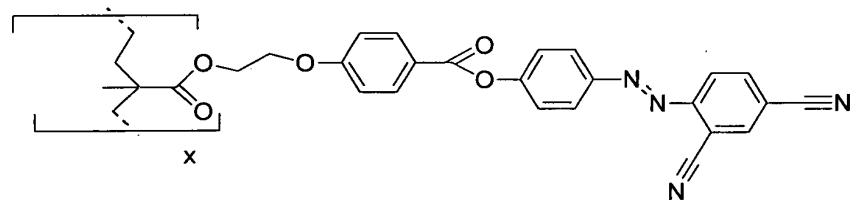
R represents hydrogen or methyl,
 S¹ represents a direct bond, -O-, -S- or -NR⁹-,
 T¹ represents -(CH₂)_p-, where the chain can be interrupted by -O-, -NR⁹- or -OSiR¹⁰₂O-,
 Q¹ represents -O-, -S-, -(N-R⁵)-, -C(R⁶R⁷)-, -(C=O)-, -(CO-O)-, -(CO-NR⁵)-, -(SO₂)-, -(SO₂-O)-, -(SO₂-NR⁵)-, -(C=NR⁸)-, -(CNR⁸-NR⁵)-, -(CH₂)_p-, p- or m-C₆H₄- or a divalent radical of the formula



i represents an integer from 0 to 4, where for i > 1 the individual Q¹ can have different meanings,
 X² represents X¹-R³ or X²-R⁴,
 X¹ and X² each independently represent a direct bond, -O-, -S-, -(N-R⁵)-, -C(R⁶R⁷)-, -(C=O)-, -(CO-O)-, -(CO-NR⁵)-, -(SO₂)-, -(SO₂-O)-, -(SO₂-NR⁵)-, -(C=NR⁸)- or -(CNR⁸-NR⁵)-,
 R¹ and R² each independently represent hydrogen or a nonionic substituent,
 R³ and R⁴ each independently represent hydrogen, C₁- to C₂₀-alkyl, C₃- to C₁₀-cycloalkyl, C₂- to C₂₀-alkenyl, C₆- to C₁₀-aryl, C₁- to C₂₀-alkyl-(C=O)-, C₃- to C₁₀-cycloalkyl-(C=O)-, C₂- to C₂₀-alkenyl-(C=O)-, C₆- to C₁₀-aryl-(C=O)-, C₁- to C₂₀-alkyl-(SO₂)-, C₃- to C₁₀-cycloalkyl-(SO₂)-, C₂- to C₂₀-alkenyl-(SO₂)- or C₆- to C₁₀-aryl-(SO₂)-, and
 m and n each independently represent an integer from 0 to 4.

9. (Once Amended, Clean) The recording material of Claim 1 wherein it comprises at least one polymer selected from formulas XIII to XX,





wherein the compositions in the co- and terpolymers can vary, provided that *x* + *y* adds up to 100 mol %, or *x* + *y* + *z* adds up to 100 mol %.

10. (Once Amended, Clean) The recording material of Claim 9 wherein p is between 10 and 1,000,

in the case of the copolymers, the molar ratio of $x : y$ is between 10:90 and 90:10, and

in the case of terpolymers, $x + y$ is greater than 10 mol%.

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11. (Once Amended, Clean) A storage system comprising the recording material of Claim 1.

12. (Once Amended, Clean) The storage system of Claim 11 wherein the recording material comprises one or more unsupported objects of any desired shape.

13. (Once Amended, Clean) The storage system of Claim 11 wherein it also additionally comprises a reflection layer.

14. (Once Amended, Clean) A process for the production of the storage system of Claim 11 wherein said process comprises applying the storage medium by spin-coating.